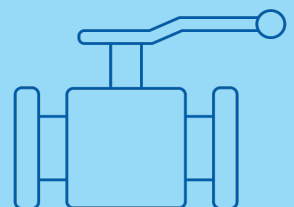




Rack & Pinion Pneumatic Actuators

Spring return
Double acting



Rack & Pinion Pneumatic actuators

The Econ® Rack & Pinion pneumatic actuators are designed to operate butterfly, ball and plug valves, as well as damper valves and other quarter-turn devices. These actuators are ideal for both on/off and modulating operation.

Product offerings include rack and pinion aluminum housed actuators with torque values up to 12.500 Nm. Engineered for reliability and built to last, Econ® actuators have a guaranteed service life of 500,000 cycles. The precision design and quality of these actuators provide long and safe performance for valve control. Econ® engineers and recognized distributors are happy to help you with your automation demands.

Up to date product features

The Econ® brand of products are designed according to today's standards and expectations that come from various agencies and customer groups. Throughout its extensive product offering, Econ® products have added features, which make them suitable for a wide spectrum of applications.

Proven quality

Quality is the driving force behind the Econ® brand of products. After assembly, each actuator is tested on a fully automatic test bench. An increasing number of customers rely upon Econ® products because there is a high value to cost ratio. This means that Econ® products are not only price competitive but also perform as well as or better than more expensive products.

General features

- Rack & Pinion design in 18 different sizes
- Fail safe - spring return - version (Fig. 7901) and double acting version (Fig. 7902)
- Linear torque output
- Double acting output torque up to 12.500 Nm
- Working temperature -20° to +80°C
- Angle of rotation is 90° ±4° by means of external travel stops (between 86° and 94°, see page 4)
- Lightweight and compact design
- Anti-friction sliding bearings provide long life without maintenance
- Captured springs = Safe maintenance
- Hard anodized aluminium body
- Epoxy coated end-caps
- Stainless steel external bolting
- Serialized body numbering for traceability
- Multifunction position indicator suitable for activation of Econ® or Pepperl & Fuchs F25 and F31 inductive sensors
- Anti blow-out pinion design



Design parameters

- In accordance with Pressure Equipment Directive (PED) 2014/68/EU, Econ® Rack & Pinion actuators are classified as follows:
 - > Size SR/DA 10 up to 500 - SEP
 - > Size SR/DA 850 up to 1750 - Category I
 - > Size SR/DA 2100 up to 9000 - Category II
- Classified for use in potentially explosive atmospheres as Group II, Category 2, suitable for zones 1, 2, 21 and 22 in accordance with Annex VIII of Directive 2014/34/EU (ATEX)
- In accordance with EN 15714-3, Pneumatic part-turn actuators for industrial valves - Basic requirements
- Anti-corrosive coating - ISO 9223 C3 (medium level of corrosion resistance)
- Air supply and top flange connection according to NAMUR VDI/VDE 3845
- Safety integrity rating IEC 61508 SIL 2 (SIL 3 in redundant configuration)
- Mounting and drive connections to ISO 5211 and DIN 3337

Options upon request

- Fast acting version
- Low temperature version down to -40°C
- High temperature version up to +150°C
- Passivation choices for the full actuator body include:
 - > Epoxy coating
 - > PTFE coating
 - > Polyurethane coating
 - > 3-layer Epoxy/Polyurethane coating for C5 environments (very high corrosivity) according to ISO 9223
- Stainless steel pinion (Grade 304 or 316)
- Full stainless steel CF8M / AISI 316 actuators



Main features & characteristics

1. Body

The aluminium body is hard anodized inside and out to provide maximum resistance to abrasion and corrosion.

2. Pinion

The hardened electroless nickel plated carbon steel shaft is blowout proof and corrosion resistant, teeth are machined for accuracy.

3. Stroke adjustment

External stainless steel stroke adjustment bolts provide $90^\circ \pm 4^\circ$ stroke rotation limits.

4. Pistons

Double pistons with integrated racks and machined teeth to avoid backlash. A 3-point guiding system insures low friction operation. The rotation direction of the actuator can be simply changed by inverting the pistons.

5. Position indicator

The top mounted visual position indicator is also an activator for inductive position sensors, like the Econ® or P&F sensor types F25 and F31.

6. Springs

Springs are positively contained and designed to release all compression before the end cap screws disengage from the body. This safety feature prevents accidental release of the springs and eliminates the possibility of personal injury.

7. End caps

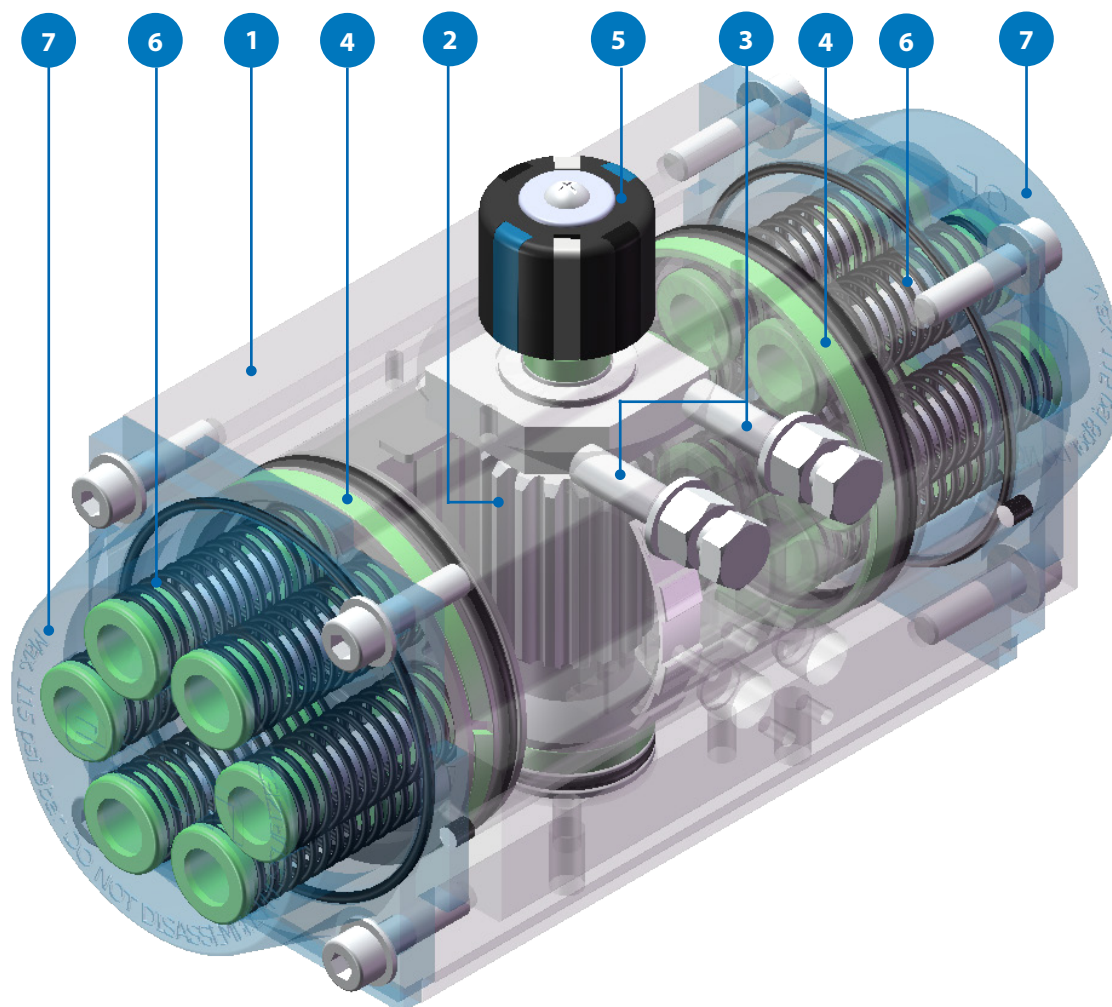
End caps are epoxy coated to protect them from environmental corrosion.

Testing

Every actuator is performance tested before being assigned a unique serial number for traceability.

Accessories

Mounting of limit switches, positioners, solenoid valves or indicators is accomplished via a NAMUR VDI/VDE 3845 mounting arrangement. Additionally, the height of the pinion shaft above the top of the actuator body is identical on all models, thereby simplifying the mounting arrangement for any NAMUR design accessory.

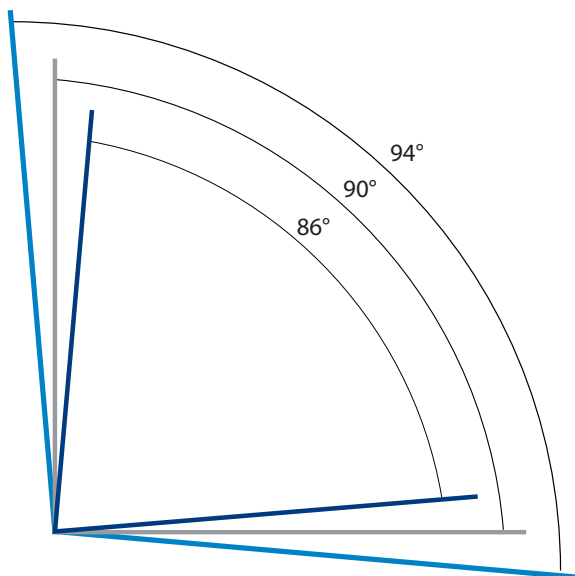


Rack & Pinion Pneumatic actuators

Bidirectional travel stops

Econ® pneumatic actuators are provided with bidirectional pinion travel stops. Side located stops allow a full $\pm 4^\circ$ travel adjustment between 86° and 94° . These travel stops are designed to absorb the maximum rated torque of the actuator and maximum impact loads associated with recommended travel speeds. Adjustment of the counterclockwise and clockwise rotation limits is accomplished by unscrewing the locking nuts, turning the respective left and right studs to reduce or increase the travel angle and retightening the locking nuts.

Travel adjustment



Working temperature

- Standard construction: -20°C to $+80^\circ\text{C}$
- High temperature version - FKM O-Rings: -20°C to $+150^\circ\text{C}$
- Low temperature version - MVQ (Silicone) O-Rings -40°C to $+80^\circ\text{C}$

Working pressure

3 to a maximum of 8 bar

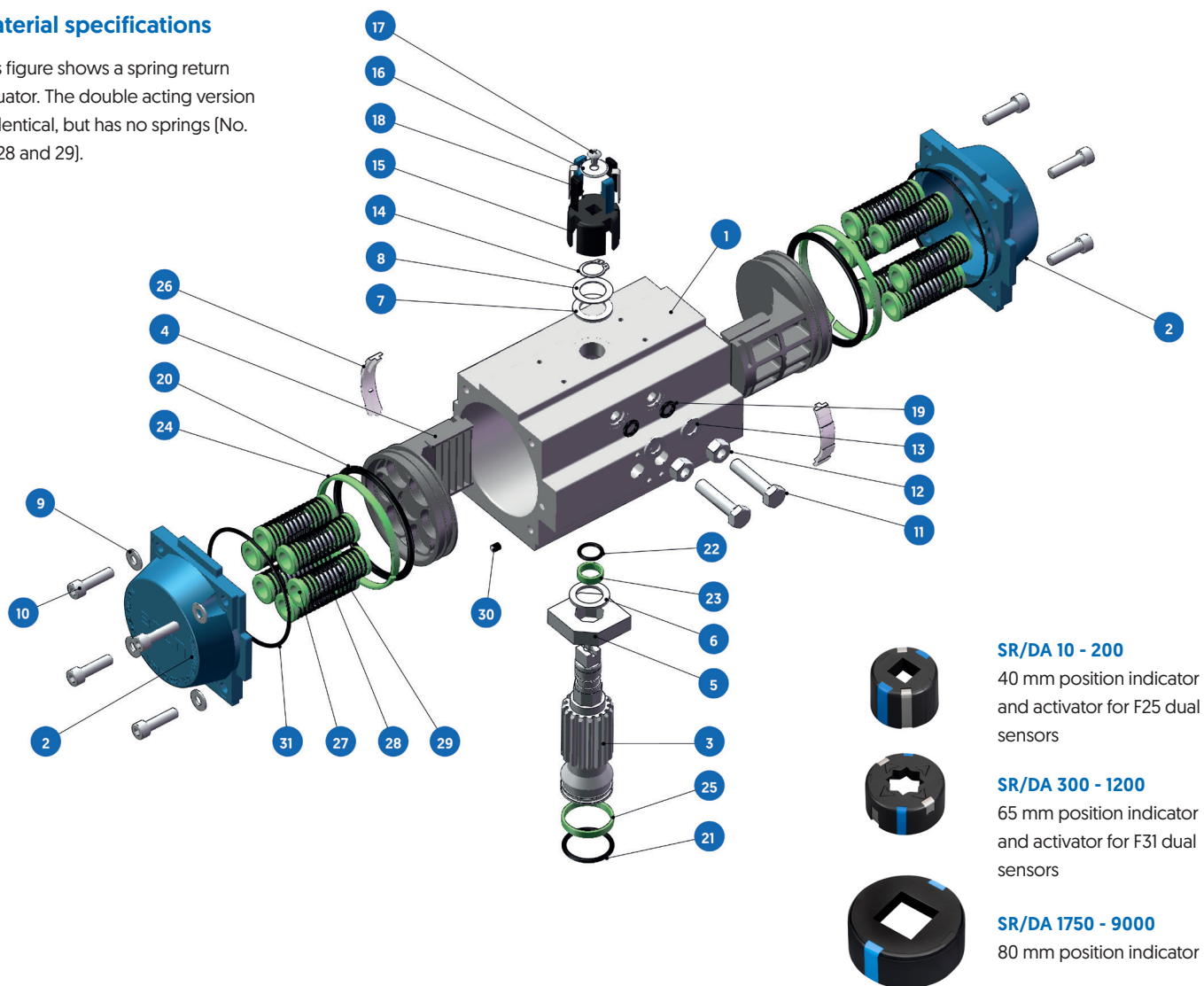
Travel stop adjustment bolts





Material specifications

This figure shows a spring return actuator. The double acting version is identical, but has no springs [No. 27, 28 and 29].



SR/DA 10 - 200

40 mm position indicator and activator for F25 dual sensors

SR/DA 300 - 1200

65 mm position indicator and activator for F31 dual sensors

SR/DA 1750 - 9000

80 mm position indicator

Item	Description	Material	Item	Description	Material
1	Body	Hard anodized aluminium	17	Position indicator cross head bolt	Stainless steel + PA66
2	End-cap	Powder coated aluminium	18	Position indicator inserts	PA66 and stainless steel
3	Pinion	C45 / 1.1191, nickel plated	19	O-ring [stroke adjustment bolts] ¹	NBR
4	Piston	Aluminium	20	O-ring [piston] ¹	NBR
5	Stroke adjustment device	C45 / 1.1191	21	O-ring [pinion bottom side] ¹	NBR
6	Lower thrust bearing [pinion]	POM + PTFE	22	O-ring [pinion top side] ¹	NBR
7	Upper thrust bearing [pinion]	POM + PTFE	23	Upper bearing [pinion]	POM + PTFE
8	Thrust washer	Stainless steel	24	Sliding bearing [piston]	POM + PTFE
9	End-cap washer	Stainless steel	25	Lower bearing [pinion]	POM + PTFE
10	End-cap bolt	Stainless steel	26	Sliding side bearing [piston]	PA66
11	Stroke adjustment bolts	Stainless steel	27	Spring cartridge seat	PA66
12	Stroke adjustment lock-nut	Stainless steel	28	Spring	Spring steel
13	Stroke adjustment washer	Stainless steel	29	Spring cartridge centre piece	Copper
14	Pinion retainer [circlip]	Stainless steel	30	Air channel plug ¹	NBR
15	Position indicator/activator	PA66	31	O-ring [end-cap] ¹	NBR
16	Position indicator washer	Stainless steel			

¹ Optional: MVQ for low temperature applications or FKM for high temperature applications

Engineering data

Size SR/DA	Max. pressure (bar)	Rotation	Piston diameter (mm)	Air connection	Volume of air chambers (dm ³)		Stroke time (s)			
					Opening *	Closing	Spring return		Double acting	
							Air stroke	Spring stroke	Opening	Closing
10	8	90°±4°	32	G 1/8"	0,03	0,04	-	-	0,3	0,4
15	8	90°±4°	40	G 1/4"	0,08	0,11	0,6	0,8	0,2	0,3
20	8	90°±4°	50	G 1/4"	0,09	0,15	0,9	0,7	0,3	0,4
40	8	90°±4°	65	G 1/4"	0,19	0,32	0,9	0,8	0,4	0,4
80	8	90°±4°	75	G 1/4"	0,30	0,50	0,9	0,9	0,4	0,4
100	8	90°±4°	85	G 1/4"	0,44	0,66	1,0	1,2	0,9	0,9
130	8	90°±4°	95	G 1/4"	0,88	1,17	1,4	1,4	0,9	1,0
200	8	90°±4°	110	G 1/4"	0,83	1,27	1,4	1,6	0,9	1,0
300	8	90°±4°	125	G 1/4"	1,41	2,13	2,4	2,4	1,3	1,4
500	8	90°±4°	140	G 1/4"	1,76	2,72	2,8	3,0	1,3	1,4
850	8	90°±4°	160	G 1/4"	2,85	4,08	4,8	4,9	2,0	2,4
1200	8	90°±4°	190	G 1/4"	4,75	7,20	2,4	3,0	2,2	2,6
1750	8	90°±4°	210	G 1/4"	6,60	10,29	3,4	4,1	2,9	3,8
2100	8	90°±4°	240	G 1/2"	11,40	15,10	3,8	4,0	3,2	3,7
2500	8	90°±4°	270	G 1/2"	15,80	18,80	5,0	5,5	4,4	4,9
4000	8	90°±4°	300	G 1/2"	19,09	28,23	6,0	6,8	5,0	6,0
6000	8	90°±4°	350	G 1/2"	27,65	44,10	7,4	8,4	6,2	7,2
9000	8	90°±4°	400	G 1/2"	42,81	62,05	9,6	10,6	7,5	8,5

* For spring open and spring close versions only this column applies.

The above stroke time values apply for the following conditions:

- Room temperature
- A full 90° stroke
- Neutral clean air
- Air supply pressure 5,5 bar

Actuator size SR/DA10 up to 850

- Pilot valve orifice of 4 mm and a capacity of Qn=400 l/min
- Inside pipe diameter 6 mm

Actuator size SR/DA1200 up to 9000

- Pilot valve orifice of 12 mm and a capacity of Qn=5.100 l/min
- Inside pipe diameter 8 mm



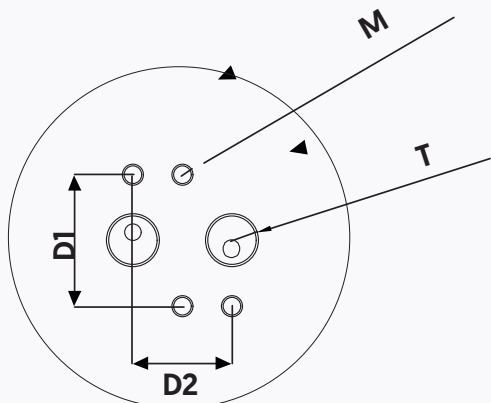
NAMUR (solenoid) and VDI/VDE (switch box)									
Size SR/DA	NAMUR				VDI/VDE			Position indicator (Activator)	
	NAMUR	T	Pitch D1xD2 (mm)	M (mm)	F (mm)	N (mm)	Pinion height (mm)	Diameter (mm)	Suitable for inductive sensors
10	1	G 1/8"	32x24	4x M5x8	50	10	30	40*	F25
15	1	G 1/4"	32x24	4x M5x8	80	10	30	40*	F25
20	1	G 1/4"	32x24	4x M5x8	80	10	30	40*	F25
40	1	G 1/4"	32x24	4x M5x8	80	10	30	40*	F25
80	1	G 1/4"	32x24	4x M5x8	80	14	30	40*	F25
100	1	G 1/4"	32x24	4x M5x8	80	14	30	40*	F25
130	1	G 1/4"	32x24	4x M5x8	80	14	30	40*	F25
200	1	G 1/4"	32x24	4x M5x8	80	14	30	40*	F25
300	1	G 1/4"	32x24	4x M5x8	80 and 130	22	30	65	F31
500	1	G 1/4"	32x24	4x M5x8	80 and 130	22	30	65	F31
850	1	G 1/4"	32x24	4x M5x8	80 and 130	22	30	65	F31
1200	1	G 1/4"	32x24	4x M5x8	80 and 130	22	30	65	F31
1750	1	G 1/4"	32x24	4x M5x8	130	32	30	80**	Use P&F puck
2100	2	G 1/2"	45x40	4x M6x10	130	32	30	80**	Use P&F puck
2500	2	G 1/2"	45x40	4x M6x10	130	32	30	80**	Use P&F puck
4000	2	G 1/2"	45x40	4x M6x10	130	32	30	80**	Use P&F puck
6000	2	G 1/2"	45x40	4x M6x10	130	32	30	80**	Use P&F puck
9000	2	G 1/2"	45x40	4x M6x10	130	32	30	80**	Use P&F puck

* F25 inductive sensors can only be combined with the 40 mm activator. However when using an activator extender, also F31 sensors can be mounted on the 40 mm activator. The 65 mm activator is only suitable to operate F31 sensors.

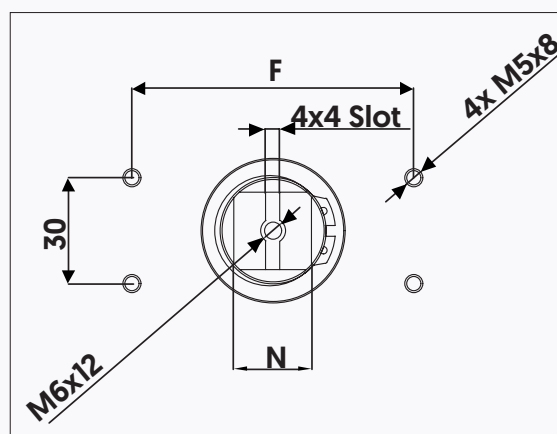
** For the actuator sizes 1750 and larger a P&F BT115 activator must be used in combination with a F31 sensor.



NAMUR air connections

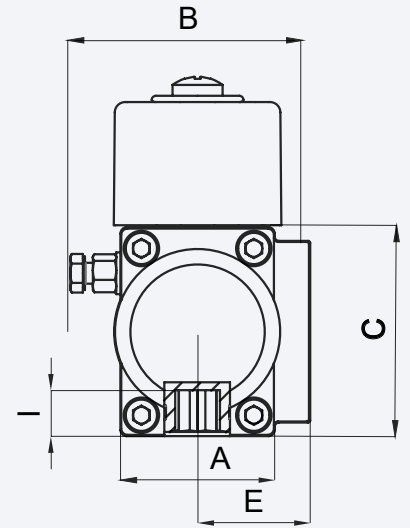
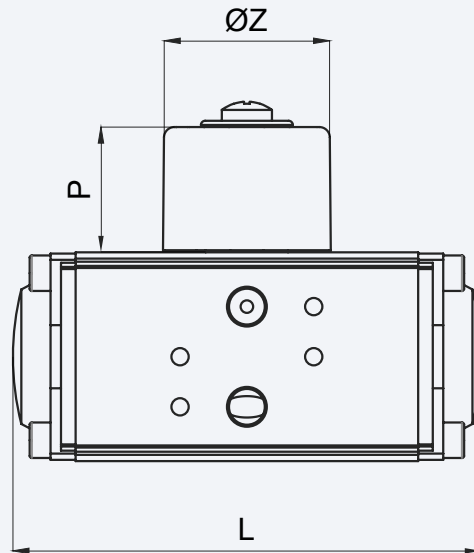


VDI/VDE top-side actuator connections

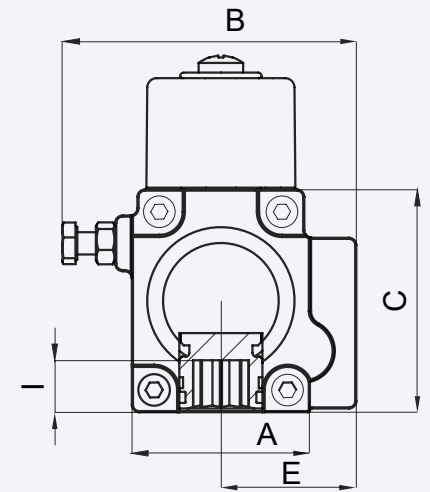
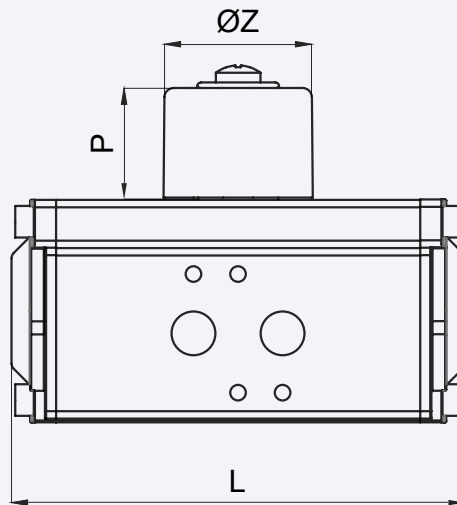


Dimensions Fig. 7901 and 7902

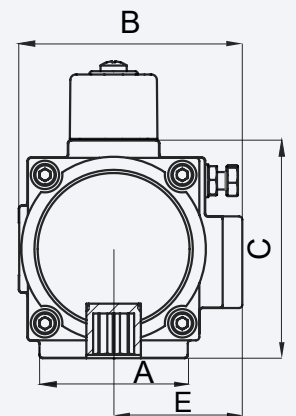
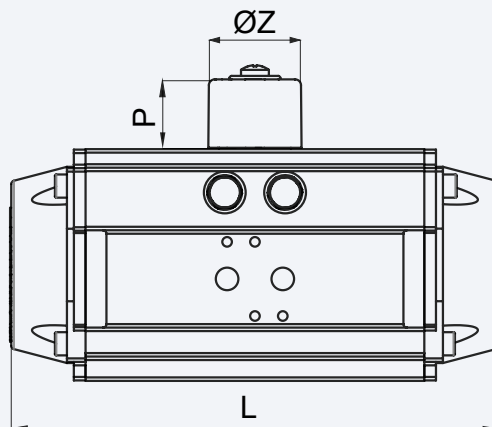
10



15

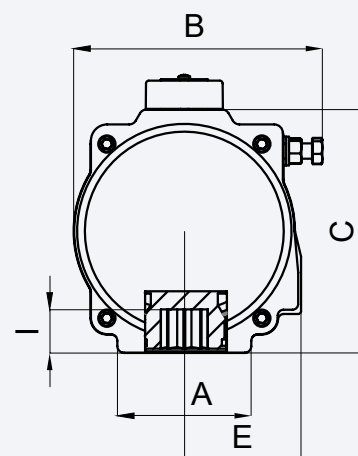
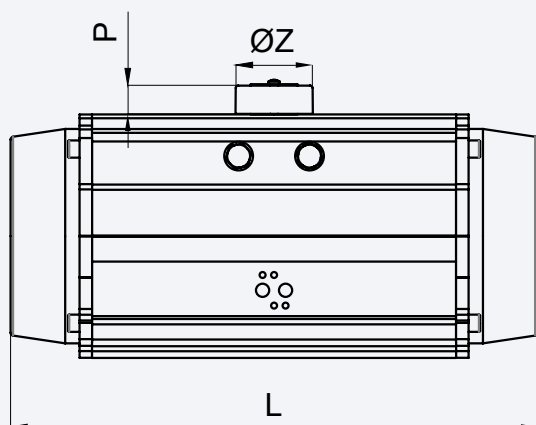


20-850

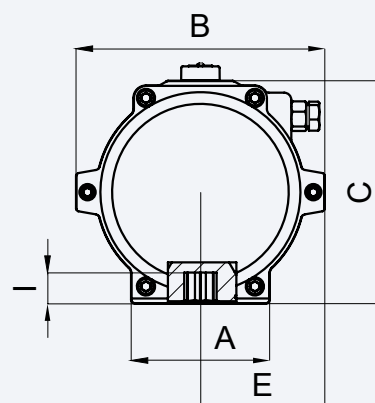
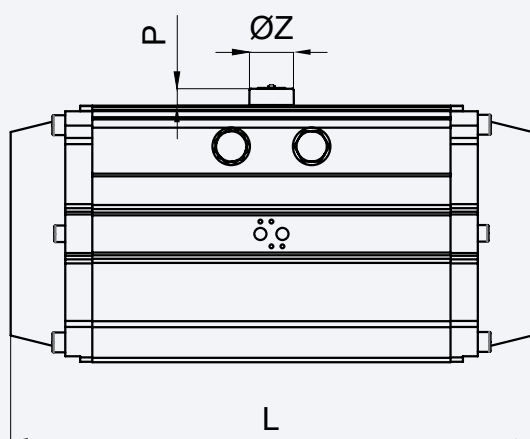




1200-6000



9000

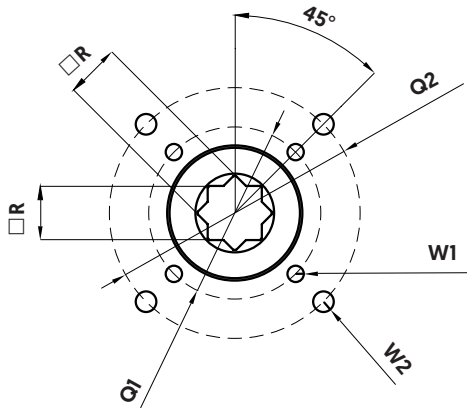


Size SR-DA	A	B	C	L	E	P	ØZ
10	37	57	50	110	27	30	40
15	48	78	60	144	36,5	30	40
20	45	70,5	70	154	41,5	30	40
40	62	89,5	89	189	51,5	30	40
80	68	102,5	100	210	59	30	40
100	68	112,5	113	229	63,5	30	40
130	92	126	123	264	71	30	40
200	93	138,5	136	266	76,5	30	40
300	96	157	161	337	85	30	65
500	110	178	178	377	97	30	65
850	112	196	200	414	106	30	65
1200	136	216,5	232	490	112	30	65
1750	140	235,5	255	550	120	30	80
2100	159	262	292	602	131	30	80
2500	159	295	331	672	147,5	30	80
4000	180	335	354	784	173	30	80
6000	270	385	410	845	195	30	80
9000	290	520	466	956	260	30	80

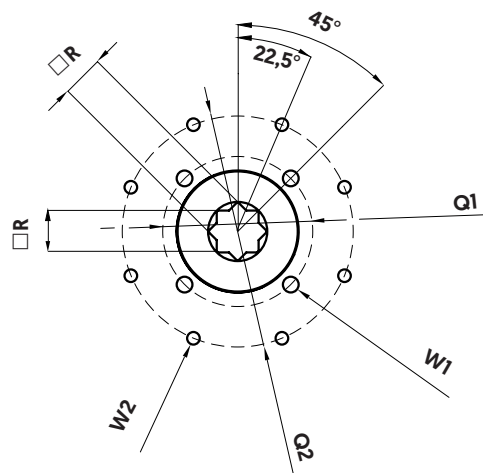
* For dimension L, please see page 10

ISO 5211 details & dimensions

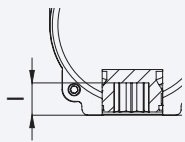
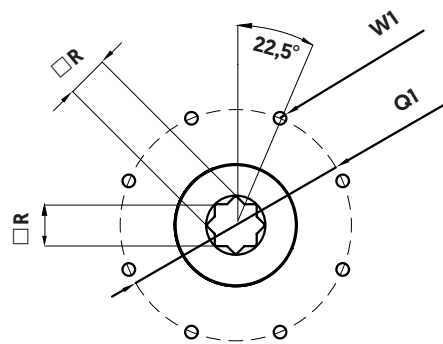
Sizes 10 up to 4000



Sizes 6000



Sizes 9000



Square depth (I)

Spring return versions - Fig. 7901

ISO-top dimensions according to ISO 5211 in mm

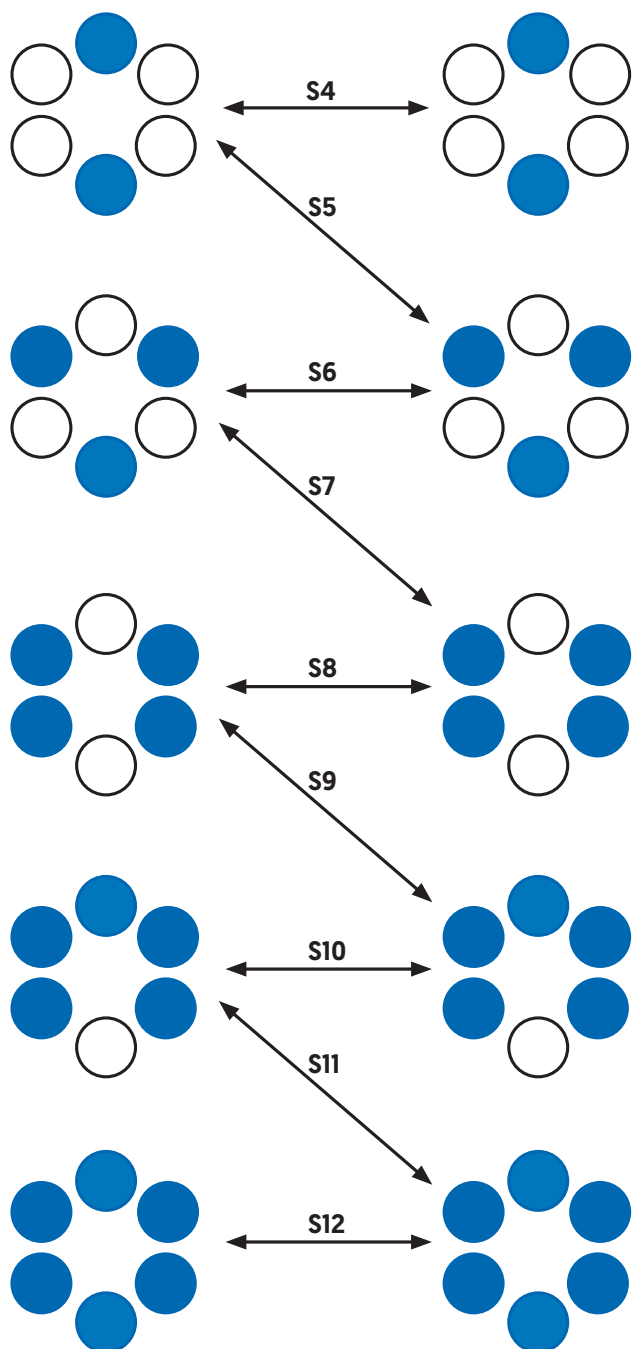
Size	Double Square □ R	ISO 1	Q1	W1	ISO 2	Q2	W2	Square depth I
SR20	9	F03	36	M5x8	F05	50	M6x9	14
SR20	11	F03	36	M5x8	F05	50	M6x9	14
SR20	9	F04	42	M5x8	-	-	-	14
SR40	9	F04	42	M5x8	-	-	-	14
SR40	14	F05	50	M6x9	F07	70	M8x12	18
SR80	14	F05	50	M6x9	F07	70	M8x12	20
SR100	17	F05	50	M6x9	F07	70	M8x12	23
SR130	17	F05	50	M6x9	F07	70	M8x12	32
SR200	17	F07	70	M8x12	F10	102	M10x15	32
SR300	22	F07	70	M8x12	F10	102	M10x15	35
SR500	27	F10	102	M10x15	F12	125	M12x18	35
SR850	27	F10	102	M10x15	F12	125	M12x18	40
SR1200	27	F10	102	M10x15	F12	125	M12x18	40
SR1200	36	F10	102	M10x15	F14	140	M16x24	45
SR1750	27	F12	125	M12x18	-	-	-	45
SR1750	36	F14	140	M16x24	-	-	-	45
SR2100	36	F12	125	M12x18	-	-	-	55
SR2100	36	F14	140	M16x24	-	-	-	55
SR2500	27	F14	140	M16x24	-	-	-	45
SR2500	36	F16	165	M20x25	-	-	-	55
SR4000	46	F16	165	M20x25	-	-	-	55
SR6000	46*	F16	165	M20x25	F25	254	M16x24	55
SR9000	55*	F25	254	M16x24	-	-	-	70

Double acting versions - Fig. 7902

ISO-top dimensions according to ISO 5211 in mm

Size	Double Square □ R	ISO 1	Q1	W1	ISO 2	Q2	W2	Square depth I
DA10	9	F03	36	M5x8	-	-	-	13
DA15	9	F04	42	M5x8	-	-	-	13
DA20	11	F03	36	M5x8	F05	50	M6x9	14
DA20	9	F04	42	M5x8	-	-	-	14
DA40	14	F05	50	M6x9	F07	70	M8x12	18
DA80	14	F05	50	M6x9	F07	70	M8x12	20
DA100	17	F05	50	M6x9	F07	70	M8x12	23
DA130	17	F05	50	M6x9	F07	70	M8x12	32
DA200	22	F07	70	M8x12	F10	102	M10x15	25
DA300	22	F07	70	M8x12	F10	102	M10x15	35
DA500	27	F10	102	M10x15	F12	125	M12x18	35
DA850	27	F10	102	M10x15	F12	125	M12x18	40
DA1200	36	F10	102	M10x15	F14	140	M16x24	45
DA1200	36	F12	125	M12x18	-	-	-	45
DA1750	27	F12	125	M12x18	-	-	-	45
DA1750	36	F14	140	M16x24	-	-	-	45
DA2100	36	F14	140	M16x24	-	-	-	55
DA2100	46	F16	165	M20x25	-	-	-	55
DA2500	46	F16	165	M20x25	-	-	-	55
DA4000	55	F16	165	M20x25	-	-	-	70
DA6000	55*	F16	165	M20x25	F25	254	M16x24	70
DA9000	55*	F25	254	M16x24	-	-	-	70

* Other square stem connections and also round connections with keyway(s) available upon request.



Spring combinations for spring return actuators

Maintenance-free spring cartridges enable safe and easy disassembly and assembly of the actuator. Econ® actuators are standard equipped with a spring set which provides optimum performance at a control pressure of 5,5 to 8 bar. For a control pressure lower than 5,5 bar, it may be necessary to remove one or more springs.

Spring return actuators use a maximum of six springs on each side, always using the same type of spring regardless of the spring combination specified. The quantity of springs is identified as follows:

Ex: S12 - Where S stands for spring set and 12 is the total number of springs assembled in the actuator.

For torque outputs based on spring combinations and actuator size, please see pages 12 through 14.

Actuator size	Spring combinations								
	S4	S5	S6	S7	S8	S9	S10	S11	S12
SR15	A	A	S	-	-	-	-	-	-
SR20	A	A	A	A	A	A	A	A	S
SR40	A	A	A	A	A	A	S	A	A
SR80	A	A	A	A	A	A	A	A	S
SR100	A	A	A	A	A	A	A	A	S
SR130	A	A	A	A	A	A	A	A	S
SR200	A	A	A	A	A	A	A	A	S
SR300	A	A	A	A	A	A	A	A	S
SR500	A	A	A	A	A	A	A	A	S
SR850	A	A	A	A	A	A	A	A	S
SR1200	A	A	A	A	A	A	A	A	S
SR1750	A	A	A	A	A	A	A	A	S
SR2100	A	A	A	A	A	A	A	A	S
SR2500	A	A	A	A	A	A	A	A	S
SR4000	A	A	A	A	A	A	A	A	S
SR6000	A	A	A	A	A	A	A	A	S
SR9000	A	A	A	A	A	A	A	A	S

S = Standard combination

A = Available combination



Rack & Pinion Pneumatic actuators

Torque output for spring return actuator

Fig. 7901 - Torque output for spring return actuators in Nm																
Size	Spring combination	Air Supply in bar												Spring Torque		Weight in kg
		3		4		5		6		7		8		End	Start	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
SR20	S05	6,9	5,3	10,7	9,0	14,4	12,8	18,1	16,5	21,9	20,2	25,6	23,9	3,5	5,2	1,3
SR20	S06	6,2	4,3	10,0	8,0	13,7	11,7	17,4	15,5	21,2	19,2	24,9	22,9	4,2	6,2	
SR20	S07	5,5	3,2	9,3	7,0	13,0	10,7	16,7	14,4	20,5	18,2	24,2	21,9	4,9	7,2	
SR20	S08			8,6	5,9	12,3	9,7	16,0	13,4	19,8	17,1	23,5	20,9	5,6	8,2	
SR20	S09			7,9	4,9	11,6	8,6	15,3	12,4	19,1	16,1	22,8	19,8	6,3	9,3	
SR20	S10					10,9	7,6	14,6	11,3	18,4	15,1	22,1	18,8	7,0	10,3	
SR20	S11					10,2	6,6	13,9	10,3	17,7	14,0	21,4	17,8	7,7	11,3	
SR20	S12							13,2	9,3	17,0	13,0	20,7	16,7	8,4	12,4	
SR40	S05	12,5	8,1	20,0	15,6	27,6	23,2	35,2	30,8	42,7	38,3	50,3	45,9	8,7	13,1	2,2
SR40	S06	10,7	5,5	18,3	13,0	25,9	20,6	33,4	28,2	41,0	35,7	48,6	43,3	10,4	15,7	
SR40	S07	9,0	2,8	16,6	10,4	24,1	18,0	31,7	25,5	39,3	33,1	46,8	40,7	12,2	18,3	
SR40	S08			14,8	7,8	22,4	15,4	30,0	22,9	37,5	30,5	45,1	38,1	13,9	21,0	
SR40	S09			13,1	5,2	20,7	12,7	28,2	20,3	35,8	27,9	43,4	35,4	15,7	23,6	
SR40	S10					18,9	10,1	26,5	17,7	34,0	25,2	41,6	32,8	17,4	26,2	
SR40	S11					17,2	7,5	24,7	15,1	32,3	22,6	39,9	30,2	19,1	28,8	
SR40	S12							23,0	12,4	30,6	20,0	38,1	27,6	20,9	31,4	
SR80	S05	22,2	16,0	34,0	27,8	45,7	39,6	57,5	51,3	69,2	63,1	81,0	74,8	10,7	16,9	3,3
SR80	S06	20,1	12,7	31,8	24,4	43,6	36,2	55,3	47,9	67,1	59,7	78,8	71,4	12,8	20,2	
SR80	S07	17,9	9,3	29,7	21,1	41,4	32,8	53,2	44,6	64,9	56,3	76,7	68,1	15,0	23,6	
SR80	S08			27,5	17,7	39,3	29,4	51,0	41,2	62,8	53,0	74,5	64,7	17,1	27,0	
SR80	S09			25,4	14,3	37,1	26,1	48,9	37,8	60,7	49,6	72,4	61,3	19,3	30,3	
SR80	S10					35,0	22,7	46,8	34,5	58,5	46,2	70,3	58,0	21,4	33,7	
SR80	S11					32,9	19,3	44,6	31,1	56,4	42,8	68,1	54,6	23,5	37,1	
SR80	S12							42,5	27,7	54,2	39,5	66,0	51,2	25,7	40,4	
SR100	S05	31,8	22,3	49,0	39,5	66,3	56,8	83,5	74,0	100,8	91,3	118,0	108,5	16,6	26,1	4,3
SR100	S06	28,4	17,0	45,7	34,3	62,9	51,5	80,2	68,8	97,4	86,0	114,7	103,3	19,9	31,3	
SR100	S07	25,1	11,8	42,4	29,1	59,6	46,3	76,9	63,6	94,1	80,8	111,4	98,1	23,2	36,5	
SR100	S08			39,1	23,9	56,3	41,1	73,6	58,4	90,8	75,6	108,1	92,9	26,5	41,7	
SR100	S09			35,8	18,7	53,0	35,9	70,3	53,2	87,5	70,4	104,8	87,7	29,8	46,9	
SR100	S10					49,7	30,7	67,0	48,0	84,2	65,2	101,5	82,5	33,1	52,1	
SR100	S11					46,4	25,5	63,6	42,7	80,9	60,0	98,1	77,2	36,4	57,3	
SR100	S12							60,3	37,5	77,6	54,8	94,8	72,0	39,7	62,5	
SRI30	S05	45,8	33,0	70,0	57,3	94,3	81,5	118,5	105,8	142,7	130,0	167,0	154,2	22,1	34,9	5,9
SRI30	S06	41,4	26,1	65,6	50,3	89,8	74,5	114,1	98,8	138,3	123,0	162,6	147,3	26,5	41,8	
SRI30	S07	36,9	19,1	61,2	43,3	85,4	67,6	109,7	91,8	133,9	116,1	158,1	140,3	30,9	48,8	
SRI30	S08			56,8	36,4	81,0	60,6	105,2	84,8	129,5	109,1	153,7	133,3	35,4	55,8	
SRI30	S09			52,3	29,4	76,6	53,6	100,8	77,9	125,1	102,1	149,3	126,4	39,8	62,7	
SRI30	S10					72,2	46,7	96,4	70,9	120,6	95,1	144,9	119,4	44,2	69,7	
SRI30	S11					67,7	39,7	92,0	63,9	116,2	88,2	140,5	112,4	48,6	76,7	
SRI30	S12							87,6	57,0	111,8	81,2	136,0	105,4	53,0	83,6	
SR200	S05	60,7	43,4	92,0	74,8	123,4	106,1	154,7	137,4	186,0	168,8	217,3	200,1	28,6	45,9	7,2
SR200	S06	55,0	34,3	86,3	65,6	117,6	96,9	149,0	128,3	180,3	159,6	211,6	190,9	34,3	55,0	
SR200	S07	49,3	25,1	80,6	56,4	111,9	87,8	143,2	119,1	174,6	150,4	205,9	181,8	40,0	64,2	
SR200	S08			74,9	47,3	106,2	78,6	137,5	109,9	168,9	141,3	200,2	172,6	45,8	73,4	
SR200	S09			69,1	38,1	100,5	69,4	131,8	100,8	163,1	132,1	194,5	163,4	51,5	82,5	
SR200	S10					94,8	60,3	126,1	91,6	157,4	122,9	188,7	154,2	57,2	91,7	
SR200	S11					89,0	51,1	120,4	82,4	151,7	113,7	183,0	145,1	62,9	100,9	
SR200	S12							114,6	73,2	146,0	104,6	177,3	135,9	68,6	110,0	



Torque output for spring return actuators - continued

Fig. 7901 - Torque output for spring return actuators in Nm																
Size	Spring combination	Air Supply in bar												Spring Torque		Weight in kg
		3		4		5		6		7		8		End	Start	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
SR300	S05	108,5	78,9	164,4	134,9	220,4	190,9	276,4	246,8	332,3	302,8	388,3	358,7	51,0	80,6	12,6
SR300	S06	98,3	62,8	154,2	118,8	210,2	174,7	266,2	230,7	322,1	286,7	378,1	342,6	61,2	96,7	
SR300	S07	88,1	46,7	144,0	102,7	200,0	158,6	256,0	214,6	311,9	270,6	367,9	326,5	71,4	112,8	
SR300	S08			133,8	86,6	189,8	142,5	245,8	198,5	301,7	254,4	357,7	310,4	81,6	128,9	
SR300	S09			123,6	70,5	179,6	126,4	235,6	182,4	291,5	238,3	347,5	294,3	91,8	145,0	
SR300	S10					169,4	110,3	225,4	166,3	281,3	222,2	337,3	278,2	102,0	161,1	
SR300	S11					159,2	94,2	215,2	150,2	271,1	206,1	327,1	262,1	112,2	177,2	
SR300	S12							205,0	134,0	260,9	190,0	316,9	246,0	122,4	193,3	
SR500	S05	155,1	115,0	237,0	196,9	318,8	278,7							82,3	122,4	16,0
SR500	S06	138,7	90,6	220,5	172,4	302,4	254,3							98,7	146,8	
SR500	S07	122,2	66,1	204,1	147,9	285,9	229,8	367,8	311,6					115,2	171,3	
SR500	S08			187,6	123,5	269,5	205,3	351,3	287,2	433,2	369,0			131,6	195,8	
SR500	S09			171,2	99,0	253,0	180,9	334,9	262,7	416,7	344,6	498,6	426,4	148,1	220,2	
SR500	S10					236,6	156,4	318,4	238,2	400,3	320,1	482,1	401,9	164,5	244,7	
SR500	S11					220,1	131,9	302,0	213,8	383,8	295,6	465,7	377,5	181,0	269,2	
SR500	S12							285,5	189,3	367,4	271,1	449,2	353,0	197,4	293,6	
SR850	S05	216,6	164,4	331,2	279,0	445,8	393,6	560,4	508,2	675,0	622,8	789,7	737,4	110,0	162,3	23,8
SR850	S06	194,6	131,9	309,2	246,5	423,8	361,1	538,4	475,7	653,0	590,3	767,7	705,0	132,0	194,7	
SR850	S07	172,6	99,5	287,2	214,1	401,8	328,7	516,4	443,3	631,0	557,9	745,7	672,5	154,0	227,2	
SR850	S08			265,2	181,6	379,8	296,2	494,4	410,8	609,0	525,4	723,7	640,1	176,0	259,6	
SR850	S09			243,2	149,2	357,8	263,8	472,4	378,4	587,0	493,0	701,7	607,6	198,0	292,1	
SR850	S10					335,8	231,3	450,4	345,9	565,0	460,5	679,7	575,2	220,0	324,5	
SR850	S11					313,8	198,9	428,4	313,5	543,0	428,1	657,7	542,7	242,0	357,0	
SR850	S12							406,4	281,0	521,0	395,6	635,7	510,3	264,0	389,4	
SR1200	S05	336,3	256,9	514,9	435,5	693,5	614,1							181,8	261,2	33,9
SR1200	S06	299,9	204,6	478,5	383,3	657,2	561,9							218,1	313,4	
SR1200	S07	263,6	152,4	442,2	331,0	620,8	509,6	799,4	688,3					254,5	365,6	
SR1200	S08			405,8	278,8	584,5	457,4	763,1	636,0	941,7	814,7			290,8	417,8	
SR1200	S09			369,5	226,6	548,1	405,2	726,7	583,8	905,3	762,4	1,084,0	941,1	327,2	470,1	
SR1200	S10					511,8	353,0	690,4	531,6	869,0	710,2	1,047,6	888,8	363,5	522,3	
SR1200	S11					475,4	300,7	654,0	479,3	832,6	658,0	1,011,3	836,6	399,9	574,5	
SR1200	S12							617,7	427,1	796,3	605,7	974,9	784,4	436,8	626,8	
SR1750	S05	477,8	364,1	727,2	613,5	976,6	862,9	1,225,9	1,112,2	1,475,3	1,361,6	1,724,7	1,611,0	245,4	359,1	48,5
SR1750	S06	428,7	292,3	678,1	541,7	927,5	791,0	1,176,9	1,040,4	1,426,2	1,289,8	1,675,6	1,539,2	294,5	430,9	
SR1750	S07	379,6	220,5	629,0	469,8	878,4	719,2	1,127,8	968,6	1,377,2	1,218,0	1,626,5	1,467,4	343,6	502,7	
SR1750	S08			579,9	398,0	829,3	647,4	1,078,7	896,8	1,328,1	1,146,2	1,577,5	1,395,5	392,6	574,6	
SR1750	S09			530,9	326,2	780,2	575,6	1,029,6	825,0	1,279,0	1,074,3	1,528,4	1,323,7	441,7	646,4	
SR1750	S10					731,2	503,8	980,5	753,1	1,229,9	1,002,5	1,479,3	1,251,9	490,8	718,2	
SR1750	S11					682,1	431,9	931,5	681,3	1,180,8	930,7	1,430,2	1,180,1	539,9	790,0	
SR1750	S12							882,4	609,5	1,131,8	858,9	1,381,1	1,108,3	589,0	861,8	

Rack & Pinion Pneumatic actuators

Torque output for spring return actuators - continued

Fig. 7901 - Torque output for spring return actuators in Nm																
Size	Spring combination	Air Supply in bar												Spring Torque		Weight in kg
		3		4		5		6		7		8		End	Start	
			90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
SR2100	S05	711,2	567,7	1.098,0	954,5	1.484,8	1.341,3							410,5	554,0	77,8
SR2100	S06	629,1	456,9	1.015,9	843,7	1.402,7	1.230,5							492,6	664,8	
SR2100	S07	547,0	346,1	933,8	732,9	1.320,6	1.119,7	1.707,4	1.506,5					574,7	775,6	
SR2100	S08			851,7	622,1	1.238,5	1.008,9	1.625,3	1.395,7	2.012,1	1.782,5			656,8	886,4	
SR2100	S09			769,6	511,3	1.156,4	898,1	1.543,2	1.284,9	1.930,0	1.671,7	2.316,8	2.058,5	738,9	997,2	
SR2100	S10					1.074,3	787,3	1.461,1	1.174,1	1.847,9	1.560,9	2.234,7	1.947,7	821,0	1.108,0	
SR2100	S11					992,2	676,5	1.379,0	1.063,3	1.765,8	1.450,1	2.152,6	1.836,9	903,1	1.218,8	
SR2100	S12							1.296,9	952,5	1.683,7	1.339,3	2.070,5	1.726,1	985,2	1.329,6	
SR2500	S05	1.017,9	791,4	1.561,8	1.335,3	2.105,7	1.879,2							559,5	786,0	90,6
SR2500	S06	906,0	634,2	1.449,9	1.178,1	1.993,8	1.722,0							671,4	943,2	
SR2500	S07	794,1	477,0	1.338,0	1.020,9	1.881,9	1.564,8	2.425,9	2.108,8					783,3	1.100,4	
SR2500	S08			1.226,1	863,7	1.770,0	1.407,6	2.314,0	1.951,6	2.857,9	2.495,5			895,2	1.257,6	
SR2500	S09			1.114,2	706,5	1.658,1	1.250,4	2.202,1	1.794,4	2.746,0	2.338,3	3.289,9	2.882,2	1.007,1	1.414,8	
SR2500	S10					1.546,2	1.093,2	2.090,2	1.637,2	2.634,1	2.181,1	3.178,0	2.725,0	1.119,0	1.572,0	
SR2500	S11					1.434,3	936,0	1.978,3	1.480,0	2.522,2	2.023,9	3.066,1	2.567,8	1.230,9	1.729,2	
SR2500	S12							1.866,4	1.322,8	2.410,3	1.866,7	2.954,2	2.410,6	1.342,8	1.886,4	
SR4000	S05	1.338,3	997,5	2.038,1	1.697,3	2.737,9	2.397,1	3.437,7	3.096,9	4.137,4	3.796,6	4.837,2	4.496,4	691,1	1.031,9	136,0
SR4000	S06	1.200,1	791,1	1.899,9	1.490,9	2.599,6	2.190,7	3.299,4	2.890,5	3.999,2	3.590,3	4.699,0	4.290,1	829,3	1.238,3	
SR4000	S07	1.061,9	584,7	1.761,6	1.284,5	2.461,4	1.984,3	3.161,2	2.684,1	3.861,0	3.383,9	4.560,8	4.083,7	967,5	1.444,7	
SR4000	S08			1.623,4	1.078,1	2.323,2	1.777,9	3.023,0	2.477,7	3.722,8	3.177,5	4.422,6	3.877,3	1.105,8	1.651,0	
SR4000	S09			1.485,2	871,8	2.185,0	1.571,5	2.884,8	2.271,3	3.584,6	2.971,1	4.284,4	3.670,9	1.244,0	1.857,4	
SR4000	S10					2.046,8	1.365,2	2.746,6	2.065,0	3.446,3	2.764,7	4.146,1	3.464,5	1.382,2	2.063,8	
SR4000	S11					1.908,5	1.158,8	2.608,3	1.858,6	3.308,1	2.558,4	4.007,9	3.258,2	1.520,4	2.270,2	
SR4000	S12							2.470,1	1.652,2	3.169,9	2.352,0	3.869,7	3.051,8	1.658,6	2.476,6	
SR6000	S05	2.017,5	1.536,4	3.056,1	2.574,9	4.094,6	3.613,5	5.133,2	4.652,0	6.171,7	5.690,6	7.210,3	6.729,1	994,3	1.475,5	189,0
SR6000	S06	1.818,6	1.241,3	2.857,2	2.279,8	3.895,8	3.318,4	4.934,3	4.356,9	5.972,9	5.395,5	7.011,4	6.434,0	1.193,2	1.770,5	
SR6000	S07	1.619,8	946,2	2.658,3	1.984,7	3.696,9	3.023,3	4.735,5	4.061,8	5.774,0	5.100,4	6.812,6	6.139,0	1.392,0	2.065,6	
SR6000	S08			2.459,5	1.689,6	3.498,0	2.728,2	4.536,6	3.766,8	5.575,1	4.805,3	6.613,7	5.843,9	1.590,9	2.360,7	
SR6000	S09			2.260,6	1.394,6	3.299,2	2.433,1	4.337,7	3.471,7	5.376,3	4.510,2	6.414,8	5.548,8	1.789,7	2.655,8	
SR6000	S10			2.061,8	1.099,5	3.100,3	2.138,0	4.138,9	3.176,6	5.177,4	4.215,1	6.216,0	5.253,7	1.988,6	2.950,9	
SR6000	S11			1.862,9	804,4	2.901,5	1.842,9	3.940,0	2.881,5	4.978,6	3.920,0	6.017,1	4.958,6	2.187,5	3.246,0	
SR6000	S12					2.702,6	1.547,8	3.741,2	2.586,4	4.779,7	3.624,9	5.818,3	4.663,5	2.386,3	3.541,1	
SR9000	S05	3.013,0	2.288,0	4.596,0	3.871,0	6.179,0	5.454,0							1.576,0	2.301,0	284,0
SR9000	S06	2.698,0	1.828,0	4.281,0	3.411,0	5.863,0	4.993,0							1.891,0	2.761,0	
SR9000	S07	2.383,0	1.368,0	3.966,0	2.951,0	5.548,0	4.533,0	7.131,0	6.116,0					2.206,0	3.221,0	
SR9000	S08			3.650,0	2.490,0	5.233,0	4.073,0	6.816,0	5.656,0	8.398,0	7.238,0			2.522,0	3.682,0	
SR9000	S09			3.335,0	2.030,0	4.918,0	3.613,0	6.500,0	5.195,0	8.083,0	6.778,0	9.665,0	8.360,0	2.837,0	4.142,0	
SR9000	S10			3.020,0	1.570,0	4.603,0	3.153,0	6.185,0	4.735,0	7.768,0	6.318,0	9.350,0	7.900,0	3.152,0	4.602,0	
SR9000	S11			2.705,0	1.110,0	4.287,0	2.692,0	5.870,0	4.275,0	7.452,0	5.857,0	9.035,0	7.440,0	3.467,0	5.062,0	
SR9000	S12					3.972,0	2.232,0	5.555,0	3.815,0	7.137,0	5.397,0	8.720,0	6.980,0	3.782,0	5.522,0	



Torque output for double acting actuators

Fig. 7902 - Torque output for double acting actuators in Nm

Size	Air Supply in bar										Weight in kg
	2.5	3	3.5	4	4.5	5	5.5	6	7	8	
	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	0° to 90°	
DA10	2,9	3,4	4,0	4,6	5,3	5,9	6,5	7,1	8,3	9,5	0,5
DA15	5,7	6,9	8,1	9,4	10,6	11,8	13,0	14,3	16,7	19,2	1,0
DA20	8,6	10,4	12,3	14,2	16,0	17,9	19,8	21,6	25,4	29,1	1,1
DA40	17,4	21,2	25,0	28,7	32,5	36,3	40,1	43,9	51,4	59,0	2,0
DA80	27,0	32,9	38,8	44,7	50,5	56,4	62,3	68,2	79,9	91,7	3,0
DA100	39,7	48,3	56,9	65,6	74,2	82,8	91,4	100,1	117,3	134,6	3,8
DA130	55,7	67,9	80,0	92,1	104,2	116,4	128,5	140,6	164,8	189,1	5,1
DA200	72,0	89,3	105,0	120,6	136,3	152,0	167,6	183,3	214,6	245,9	61,0
DA300	128,7	159,5	187,5	215,4	243,4	271,4	299,4	327,4	383,3	439,3	11,0
DA500	196,0	237,0	278,0	319,0	360,0	401,0	442,0	483,0	565,0	647,0	13,8
DA850	263,5	326,6	383,9	441,2	498,5	555,8	613,1	670,4	785,0	899,7	20,2
DA1200	428,5	518,0	607,3	696,6	785,9	875,3	964,6	1.053,9	1.232,5	1.411,1	28,5
DA1750	598,2	723,2	847,9	972,6	1.097,3	1.222,0	1.346,6	1.471,3	1.720,7	1.970,1	40,0
DA2100	928,3	1.122,0	1.315,0	1.508,0	1.702,0	1.895,0	2.089,0	2.282,0	2.669,0	3.056,0	52,6
DA2500	1.305,0	1.577,0	1.849,0	2.121,0	2.393,0	2.665,0	2.937,0	3.209,0	3.753,0	4.297,0	73,6
DA4000	1.678,6	2.029,4	2.379,3	2.729,2	3.079,1	3.429,0	3.778,9	4.128,8	4.828,5	5.528,3	108,0
DA6000	2.492,5	3.011,8	3.531,1	4.050,4	4.569,6	5.088,9	5.608,2	6.127,5	7.166,0	8.204,6	147,0
DA9000	3.798,1	4.589,4	5.380,7	6.172,0	6.963,3	7.754,5	8.545,8	9.337,1	10.919,7	12.502,2	221,0

Actuator accessories Rack & Pinion actuators

Switch boxes

Econ® Fig. 79650, 79651, 79652 and 79653

- Position feedback device for open, closed or intermediate positions. Also available with a potentiometer and position transmitter for a 4-20mA feedback signal
- The switch boxes can be equipped with mechanical switches or Pepperl and Fuchs proximity sensors
- Econ® switch boxes can also be mounted on actuators for 3-way L- or T-port valves
- Aluminium or stainless steel IP67 or IP68 enclosure
- Fig. 79653 for explosion proof applications [ATEX-classified for zone 1, 2, 21 and 22]



Inductive dual sensors

Econ® Fig. 79654, 79655, 79656 and 79657

- Compact construction with sturdy plastic IP67 enclosure
- Cable connection types: Plug-in terminal strip, M12 male connector or 2 meter PVC cable
- 2-wire DC sensor with minimum off-state (leakage) current; max. 0,2mA
- Compatible with all modern PLC's and DCS-systems (only for fig. 79654 and 79657)



Solenoid valves

Fig. 33580

- Namur pilot solenoid valves for direct mounting
- Voltages: 24 AC, 115 AC, 230 AC and 24 DC
- For double acting and single acting actuators (3/2 and 5/2 function)
- Aluminium enclosure
- DIN 43650 connector



Smart positioners

Fig. 3303 and 3304

- For modulating applications
- Automatic calibration
- Input signal 4-20mA
- Additional modules available for 4-20mA feedback signal or HART protocol communication
- Pressure gauges can be mounted on this positioner as an option
- Also available in explosion proof versions [ATEX zones 1, 2, 21 and 22]

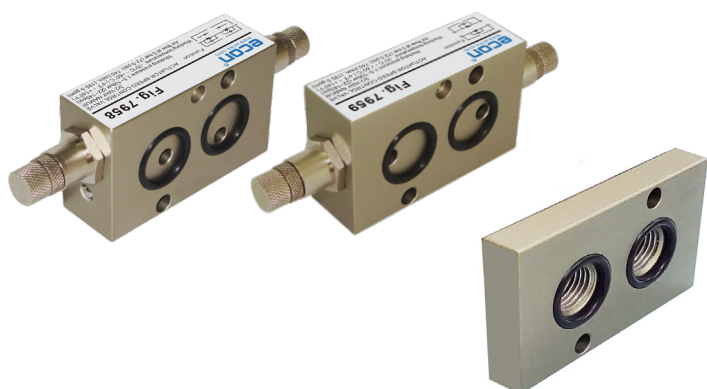




Speed control block

Fig. 7958 and 7959

- By adjusting the air flow into and out of the actuator, the opening and closing speed of the actuator can be reduced.
- For spring return actuators (Fig. 7985) and double acting actuators (Fig. 7959)
- For actuators with a NAMUR 1 (G 1/4") connection.
- To be mounted between a NAMUR pilot valve and the actuator
- Mounting without a NAMUR pilot valve is also possible by using the G 1/4" adapter plate.



Breather and Quick exhaust block

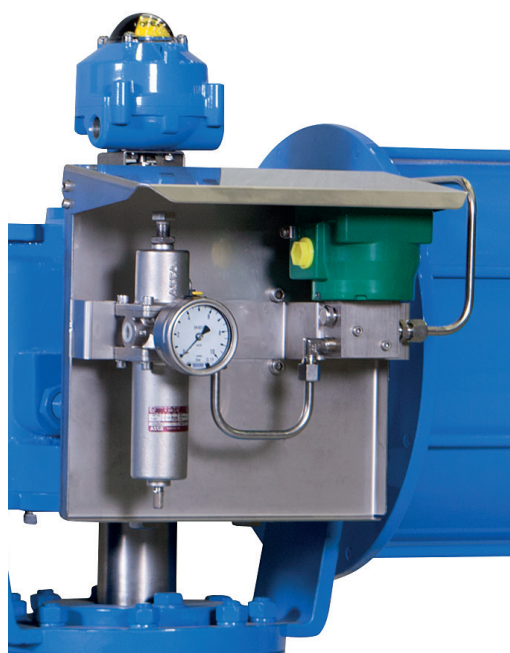
Fig. 7956

- For spring return actuators which are mounted in a corrosive environment. The breather block does protect the springs and spring chambers from the environment by ventilating the spring chambers with instrument air.
- This block also has a quick exhaust function for reducing the fail safe stroke time.
- For actuators with a NAMUR 1 (G 1/4") connection.
- To be mounted between a NAMUR pilot valve and the actuator or directly on a G 1/4" air supply connection.



Control panels and cabinets

- Customized solutions based on the functional needs
- Different designs depending on weather effects and environmental influences



Scotch Yoke actuators

Fig. 7991 and 7992

- Torques up to 250.000 Nm
- Double and spring return versions
- Pneumatic and hydraulic operated
- Explosion proof (ATEX zones 1, 2, 21 and 21)
- Safety Integrity Rating IEC 61508 SIL 2 (SIL 3 in redundant configuration)
- Available with manual override
- Available with hydraulic damper



ERIKS

Flow Control

Visiting address

Cypresbaan 63
2908 LT Capelle aan den IJssel
The Netherlands

The Netherlands

T +31 88 855 81 00
E info.capelle@eriks.nl

Belgium

T +32 (0)3 829 28 20
E valves@eriks.be

France

T +33 (0)1 34 82 10 00
E eriks.valves@eriks.fr

Germany

T +49 2236 8916 301
E armaturen@eriks.de

United Kingdom

T +44 (0)116 272 7300
E efcleicester@eriks.co.uk

Follow ERIKS online:



www.eriks.nl/socialmedia

 www.eriks.nl

 shop.eriks.nl

Let's make industry work better

ERIKS